Forced Convective of Micropolar Fluid on a Stretching Surface of Another Quiescent Fluid

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Abstract

In this paper, the problem of forced convection flow of micropolar fluid of lighter density impinging orthogonally on another heavier density of micropolar fluid on a stretching surface is investigated. The boundary layer governing equations are transformed from partial differential equations into a system of nonlinear ordinary differential equations using similarity transformation and solved numerically using dsolve function in Maple software version 2016. The velocity, microrotation and temperature of micropolar fluid are analyzed. It is found that both upper fluid and lower fluid display opposite behaviour when micropolar parameter K various with strong concentration n = 0, Pr = 7 and stretching parameter lambda = 0.5. The results also show that stretching surface exert the force that increasing the velocity of micropolar fluid.

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